Micro Dynamics Corp

Minnesota Technology Inc.

Lean Manufacturing Techniques Electrify Microdynamics Corporation

Client Profile:
MicroDynamics Corporation is an electronic manufacturing service provider with two manufacturing plants in Montevideo, Minnesota. MicroDynamics customers include original equipment manufacturers in the telecommunications, computer, industrial, military, and medical sectors. Established in 1981, the company employs 200 people.

Situation:
MicroDynamics Corporation (MDC)'s sales grew by 55 percent in 1999, necessitating the purchase of a 20,000 square foot expansion plant located across the street from its original 40,000 square foot facility. Faced with this volume of rapid growth, the company decided to expand capacity and increase profitability by applying lean manufacturing techniques to its operations. MDC contacted Minnesota Technology, Inc. (MTI), a NIST MEP network affiliate, for assistance.

Solution:
MTI, with support from the Southwest Minnesota Initiative Fund, trained every MDC employee in the concepts of lean manufacturing, including standardized work, workplace organization, visual controls, set-up reduction, batch size reduction, point-of-use storage, quality at the source, workforce practices, and pull systems. Once trained, MDC employees participated in a series of lean implementation exercises aimed at helping the company reach its goals.
The first two major lean initiatives focused on reducing cycle time and inventory turns. MTI conducted a two-day value stream mapping exercise focused on the circuit board production line. MDC utilized a cross-functional employee team to measure and identify areas for improvement within the production and information flows, establish a future vision, and develop a plan to achieve that vision.
From the team's work, MDC made several changes to operations and processes, among them, first article inspection training, which teaches employees techniques for reducing first article inspection cycle time. MDC also embraced the philosophy of continuous improvement, which creates a contemporary operations strategy in concert with the business growth objectives.
Additionally, the company developed a fast changeover plan for its wave solder process. Finally, MDC applied workplace organization (5S) strategies to its plant to produce a safer, more efficient workplace.

As a result of these changes, MDC freed 8,000 square feet of the facility for additional operations. Now MDC doesn't need the second building purchased to manage growth. The company is now planning to sell the building and reclaim its investment.

Results:
Trained 160 employees in lean manufacturing concepts and techniques.
Reduced printed wiring assembly cycle time by 40 percent.
Planning to reduce the newly achieved cycle time by an additional 40 percent.
Changed plant floor layout to reduce the distance products travel by 65 percent.
Standardized workstations to improve efficiency.
Reduced employee movement on the plant floor from 1,030 feet to 400 feet.
Reduced system repair service by 53 percent during the initial activity, and have since achieved another 40 percent reduction.
Reduced cycle time from 14 days to 39 hours.
Selling extraneous plant space.

Testimonial:
"Because technology is constantly changing and improving, MDC must also change and improve. Minnesota Technology, Inc., with the support of the Southwest Minnesota Initiative Fund, helped us implement the 'lean thinking' concept throughout our company, which increased our opportunity to provide our customers with quicker turn arounds, increased quality and improved on-time delivery while remaining flexible. We have also been able to more efficiently and economically produce our products, which helped free up so much space in one of our buildings that we may no longer need it and are considering selling it."

Gary Boettcher, Branch Manager